

What is claimed is:

1. A process for the production of malt beverages, wherein an isomerized  $\alpha$ -acids containing composition is added to a wort, the improvement wherein the isomerized  $\alpha$ -acids containing composition comprises a mixture of the alkali metal salts of reduced (*rho*-) iso- $\alpha$ -acids,  $\beta$ -acids, hop oil and water, said composition being added to the wort during brewing.  
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2. The process of claim 1, wherein a portion of said mixture is added to the wort early in a boil, and a portion of said mixture is added to the wort in a later stage of a boil.
3. The process of claim 1, wherein said mixture comprises between about 20 weight percent and 50 weight percent reduced (*rho*-) iso- $\alpha$ -acids, between about 5 weight percent and 10 about 30 weight percent  $\beta$ -acids, and between about 1 volume/weight percent and about 15 volume/weight percent of hop oil.
4. The process of claim 3, wherein said mixture comprises between about 35 and 45 weight percent *rho*-iso- $\alpha$ -acids, between about 15 and 20 weight percent  $\beta$ -acids, between about 5 and 8 volume/weight percent hop oil, and the balance comprising primarily water and hop-15 derived fats, waxes and uncharacterized hop resins.
5. The process of claim 2, wherein between about 10 and 50 weight percent of said mixture is added to the wort late in said boil.
6. The process of claim 2, wherein between about 20 and 40 weight percent of said mixture is added to the wort late in said boil.
- 20 7. The process of claim 1, wherein said hop oil is a fraction obtained from hops or hop extracts and contains a compound selected from the group consisting of myrcene, caryophyllene, farnesene, humulene, an epoxide, linalool and humulene-2-ol, and a mixture of one or more thereof.

8. A process for the production of malt beverages, wherein a hops derived bittering agent is added to a wort or beer, the improvement wherein the bittering agent comprises reduced (*rho*-) iso- $\alpha$ -acids in their primarily alkali metal salts form in a *rho*-iso- $\alpha$ -acids concentration exceeding about 40 weight percent and in which the remainder of the composition is primarily 5 water.

9. The process of claim 8, wherein the said concentration of *rho*-iso- $\alpha$ -acids is between about 45 weight percent and about 75 weight percent.

10. The process of claim 9, wherein the concentration of *rho*-iso- $\alpha$ -acids is about 60 weight percent.

10 11. The process of Claim 8 in which the alkali metal is potassium.

12. A composition for flavoring malt beverages, comprising a mixture of reduced (*rho*-) iso- $\alpha$ -acids, primarily in their alkali metal salts form, hop oil,  $\beta$ -acids and water.

13. The composition of claim 12, wherein said reduced (*rho*-) iso- $\alpha$ -acids are present in an amount between about 20 weight percent and about 50 weight percent, said  $\beta$ -acids are 15 present in an amount between about 10 weight percent and about 30 weight percent, and said hop oil is present in an amount between about 1 volume/weight percent and about 15 volume/weight percent.

14. The composition of claim 13, comprising between about 35 and 45 weight percent of said *rho*-iso- $\alpha$ -acids, between about 15 and 20 weight percent of said  $\beta$ -acids, 20 between about 5 and 8 volume/weight percent of said hop oil, and the balance comprising primarily hop derived fats, waxes, uncharacterized resins and water.

15. The composition of claim 12, wherein said hop oil is a fraction obtained from hops or hop extracts and contains a compound selected from the group consisting of myrcene,

caryophyllene, farnesene, humulene, an epoxide, linalool and humulene-2-ol, and a mixture of one or more thereof.

16. A bitter, hops-derived composition for flavoring malt beverages, the improvement wherein said composition contains reduced (*rho*-) iso- $\alpha$ -acids in their primarily alkali metal salts 5 form in a concentration (of *rho*-iso- $\alpha$ -acids themselves) exceeding about 40 weight percent.

17. A process for forming a stable, high solids content, partially aqueous composition containing reduced (*rho*-) iso- $\alpha$ -acids, comprising the step of mixing concentrated aqueous alkali metal hydroxide solution and reduced (*rho*-) iso- $\alpha$ -acids in their free acid form to form a concentrated solution containing the alkali metal salt of said reduced (*rho*-) iso-alpha-acids.

10 18. The process of claim 17, wherein said concentrated aqueous alkali hydroxide solution is added to said reduced (*rho*-) iso- $\alpha$ -acids stepwise until a substantially neutral or slightly alkaline pH is attained.

19. The process of claim 17, including the step of heating and stirring said reduced (*rho*-) iso- $\alpha$ -acids during addition of said aqueous alkali metal hydroxide solution.

15 20. The process of claim 19, further comprising the step of cooling said resulting, concentrated aqueous solution of the alkali metal salts of reduced (*rho*-) iso- $\alpha$ -acids to room temperature.

21. The process of claim 17, wherein said concentrated alkali metal hydroxide solution comprises potassium hydroxide.

20 22. The process of claim 21, wherein said potassium hydroxide comprises a saturated aqueous solution containing about 45 weight percent potassium hydroxide.

23. A light stable composition of an alkali metal salt of reduced (*rho*-) iso- $\alpha$ -acids having a concentration of reduced (*rho*-) iso- $\alpha$ -acids of at least about 40% by weight.

24. The composition of claim 23, wherein said alkali metal comprises potassium.

25. The composition of claim 24, wherein said composition comprises about 60% by weight of reduced (*rho*-) iso- $\alpha$ -acids, the balance comprising mostly water.

26. Malt beverages brewed by the addition of the composition of Claim 23 to wort.

5 27. Malt beverages brewed by the addition of the composition of Claim 23 to beer, either with or without the prior addition of water.